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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/754,232	01/03/2001	Toshiki Kaneko	16869P-018000US	2619

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EXAMINER

AKKAPEDDI, PRASAD R

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 01/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/754,232

Applicant(s)

KANEKO ET AL.

Examiner

Prasad R Akkapeddi

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

2. Claim 8 is objected to because of the following informalities: It is missing. Appropriate correction is required.

3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 9 should be renumbered as claim 8 and other subsequent claims should be renumbered claim 9 and so on.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 10 and 14 recites the limitation "said pair of electrodes" in claim 9 and 13.

There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al. (Kim) (U.S. Patent No. 5,907,379).

As to claim 1: Kim discloses a liquid crystal display device (Figs. 4-8) having a pair of substrates (1, 2), a liquid crystal layer interposed between the pair of substrates, a wiring having a stacked structure layer (21, 401) (Col. 4, lines 1-25) formed on one of pair of substrates (1), a transparent conductive film (402) formed over the wiring, the wiring includes a first layer of aluminum (23,24) and a second layer of material made from molybdenum or chromium (Col. 4, line 21).

As to claims 2-5: Kim discloses that the second layer (401) is formed on the first layer (23, 24) and the transparent conductive film includes ITO. In Fig 4, Kim also discloses a plurality of pixel parts being constructed with a plurality of gate lines (10) and a plurality of drain lines (40) arranged in a matrix on one of the pair of substrates (1), and a switching element (TFT) and the drain lines comprises the wiring and the gate lines comprises the wiring (Col. 4, lines 7-23).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 6-13 and 15-18 (Note: claim 8 is missing) are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Asada et al. (Asada) (U.S. Patent No. 5,745,207).

a. As to claims 6-13: Although Kim discloses common electrodes but does not explicitly disclose counter voltage signal lines, Asada on the other hand, in disclosing a similar liquid crystal display device, discloses the plurality of gate lines (1) are formed along a first direction and plurality of drain lines (3) formed along a second direction and a plurality of counter voltage signal lines (2a) formed along the first direction in one of the pair of substrates, a counter electrode (2) disposed in the pixel part (4) and connected with the one of plurality of counter voltage signal lines (2a), the counter electrode having a rectilinear shape or a comb shape (Fig. 6) and the pixel electrode (4) connected with a switching element (7) formed at a crossing point between the drain lines and the gate lines. Asada also discloses a first insulation layer (Col. 5, line 28) and the zig-zag shaped structure of the pixel electrode (Fig. 2) and the comb-shaped structure (Fig. 6). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the structure disclosed

by Asada to the display device disclosed by Kim to enhance the quality of the image with large angle viewing and having multiple tone capability.

As to claims 15-18: All the recited features have been addressed by Kim in view of Asada as described earlier. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the structure disclosed by Asada to the display device disclosed by Kim to enhance the quality of the image with large angle viewing and having multiple tone capability.

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim and Asada as applied to claim 13 above, and further in view of Fukuyoshi (U.S. Patent No. 4,853,296).

Although Kim and Asada disclose many of the recited features, they do not disclose the use of organic layer and the formation of the counter electrode using such organic layer. Fukuyoshi on the other hand, in disclosing the various formations of metal conductors (such as a counter electrode) discloses an overcoat layer of organic thin film on top of an inorganic layer (Col. 4, lines 4-7). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the electrode structure consisting the organic and inorganic layers as disclosed by Fukuyoshi to the display devices disclosed by Kim and Asada to reduce pin hole defects.

11. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim and Asada as applied to claim 1 above, and further in view of Fukuyoshi.

Kim and Asada disclose all the recited features as described earlier, except the specific triple-layered structure. Fukuyoshi in describing various formation of conductive layers, discloses three layer structure consisting of aluminum layer, a high melting point metal layer such as nickel and another metal layer such as chromium (Col. 3, lines 16-24). In addition, Aluminum can also be substituted for Chromium to prevent diffusion of tin at the time of soldering. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the electrode structure consisting the triple layered structure as disclosed by Fukuyoshi to the display devices disclosed by Kim and Asada to enhance the adhesivity of these layers.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lee et al. (U.S. Patent No. 6,466,289).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.

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December 23, 2002

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